## **AMENDMENTS TO THE ABSTRACT:**

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It is an object of this invention to accurately correct an output variation due to a change in temperature of a photoelectric sensor. An exposure apparatus includes a photoelectric sensor (13, 15) for controlling exposure of a wafer, a memory (21) that stores the output variation characteristic of the photoelectric sensor (13, 15) with respect to the quantity of light with which the photoelectric sensor is irradiated, a calculator (22) that calculates the output variation amount of the photoelectric sensor (13, 15) on the basis of the quantity of light with which the photoelectric sensor (13, 15) is irradiated, the energy per unit time of the light, and the output variation characteristic stored in the memory (21), and a compensator (23) that corrects an output from the photoelectric sensor (13, 15) on the basis of the output variation amount calculated by the calculator (22).

-- An exposure apparatus which has a light source and transfers a pattern of an original to a substrate using light supplied from the light source includes a photoelectric sensor used to control an amount of light to which the substrate is exposed, a memory storing a first value for correcting an output value of the photoelectric sensor with respect to each accumulated energy of light, having a first power, with which the photoelectric sensor is irradiated, a calculator which calculates a second value for correcting an output value of the photoelectric sensor corresponding to a second accumulated energy of light, having a second power, with which the photoelectric sensor is irradiated, based on the first value in the memory corresponding to the second

accumulated energy, and a ratio of the second power to the first power, and a correction unit which corrects an output value of said photoelectric sensor using the second value. --